

Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, D.C.

In the Matter of)
)
 Revision of the Commission's Rules) CC Docket No. 94-102
 To Ensure Compatibility with) RM-8143
 Enhanced 911 Emergency Calling Systems)

MEMORANDUM OPINION AND ORDER

Adopted: December 1, 1997

Released: December 23, 1997

By the Commission: Chairman Kennard and Commissioner Tristani issuing statements.

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I. INTRODUCTION AND SUMMARY

1. On June 12, 1996, the Commission adopted a Report and Order and a Further Notice of Proposed Rulemaking in this docket, establishing rules requiring wireless carriers to implement 911 and Enhanced 911 (E911) services.¹ The Commission received 16 petitions for reconsideration of the *E911 First Report and Order*.² By this action, we resolve the petitions for reconsideration or clarification of the rules we adopted in the *E911 First Report and Order*.

2. Thirteen of the petitioners urge the Commission to reconsider the rules governing when covered wireless carriers must make 911 access available to callers. Three petitioners request the Commission to modify or defer the implementation dates of rules requiring covered carriers to provide 911 access to people with hearing or speech disabilities through the use of Text Telephone Devices, such as TTYs.³ Five petitioners seek reconsideration of our decision with respect to the wireless carriers to whom the rules apply, particularly for "covered Special Mobile Radios (SMRs)."

3. Five petitioners raise issues concerning the E911 Phase I requirements that covered carriers must provide call back numbers and cell site location information, and six petitioners challenge the adoption of the E911 Phase II requirements of Automatic Location Identification (ALI). With regard to other policy issues, six petitioners request the Commission to reconsider its decision not to provide Federal limitation of liability with respect to actions taken by carriers in efforts to comply with E911 requirements, and five petitioners seek reconsideration of the Commission's decision not to establish a Federal funding mechanism for the recoupment of carrier costs associated with achieving compliance with E911 requirements.

4. Following the initial round of comments on the petitions, two additional rounds of comments were requested by the Wireless Telecommunications Bureau to supplement the record. The first concerned technical issues regarding the transmission and screening of 911

¹ In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676 (1996) (*E911 First Report and Order* and *E911 Second NPRM*).

² The list of pleadings is included in Appendix A. Abbreviations used in this Order in citing to pleadings also are included in Appendix A.

³ The text telephone, also referred to as the TTY, was developed by a deaf physicist in the mid-1960s from existing teletype technology. Use of the TTY network has become widespread in the deaf community because the technology, although old and slow, is dependable and works well in a voice environment. See <http://tap.gallaudet.edu/faq2.htm>. For further discussion regarding TTY, see Section III.B, *infra*.

calls.⁴ The second concerned proposals contained in a joint *ex parte* letter from representatives of the wireless industry and the public safety community to resolve or defer consideration of various issues raised on reconsideration.⁵

5. In this Memorandum Opinion and Order, pursuant to Section 1.429 of the Commission's Rules,⁶ we decide (1) to modify our rules by requiring wireless carriers to transmit all 911 calls without regard to validation procedures and regardless of code identification; (2) to temporarily suspend enforcement of the requirement that wireless carriers provide 911 access to customers using TTY devices until October 1, 1998, but only for digital systems and subject to a notification requirement; (3) to modify the definition of "covered SMR" for E911 purposes to include only providers of real-time two-way interconnected voice service the networks of which utilize intelligent switching capability and offer seamless handoff to customers, and to extend this definition to broadband Personal Communications Services (PCS) and cellular as well as SMR providers; and (4) to clarify the Phase I requirement for call back numbers and modify associated rule definitions. We also reemphasize that our rules are intended to be technology-neutral, and to encourage the most efficient and effective technologies to report the location of wireless handsets, the most important E911 feature both for those seeking help in emergencies and for the public safety organizations that respond to emergency calls.

6. The limited revisions to our rules we adopt today are intended to remedy technical problems raised in the record while otherwise reaffirming our commitment to the rapid implementation of the technologies needed to bring emergency assistance to wireless callers throughout the United States.

II. BACKGROUND

A. E911 First Report and Order

7. The *E911 First Report and Order* was the culmination of extensive efforts by the public safety community, the wireless telecommunications industry, and the Commission to

⁴ See Public Notice, Additional Comment Sought: Commission Seeks Additional Comment in Wireless Enhanced 911 Rulemaking Proceeding Regarding *Ex Parte* Presentations on Certain Technical Issues, CC Docket No. 94-102, DA 97-1502, released July 16, 1997 (July 16 Public Notice).

⁵ See CTIA, PCIA, APCO, NENA, and NASNA *Ex Parte* Letter (filed Sept. 25, 1997) (Joint Letter); see also Public Notice, "Additional Comment Sought in Wireless Enhanced 911 Reconsideration Proceeding Regarding Rules and Schedules," CC Docket No. 94-102, DA 97-2151, released Oct. 3, 1997 (October 3 Public Notice).

⁶ See Section 1.429(b) of the Commission's Rules, 47 C.F.R. § 1.429(b).

implement E911 for wireless services.⁷ In addition to over 110 comments and reply comments on the *E911 Notice*, the record included a Petition for Rulemaking filed by Ad Hoc Alliance for Public Access to 911 (Alliance)⁸ and a Consensus Agreement filed by the Cellular Telecommunications Industry Association (CTIA) and three national public safety organizations — the Association of Public-Safety Communications Officials International, Inc. (APCO), the National Emergency Number Association (NENA), and the National Association of State Nine One One Administrators (NASNA).⁹

8. In adopting the *E911 First Report and Order*, the Commission recognized the importance of improving the quality and reliability of 911 services available to wireless callers. Although 911 was originally developed for wireline telephone users, the number of wireless 911 calls is growing rapidly, paralleling the dramatic increase in wireless telephone subscribers in the United States, currently more than 50 million.¹⁰ According to CTIA, more than 21 million emergency wireless calls were placed in 1996 in the United States.¹¹ This amounts to more than 59,000 wireless 911 calls each day. Unlike wireline E911 systems, which allow automatic number identification and automatic location identification of wireline 911 calls, however, the phone number and the location of the caller cannot be displayed at the Public Safety Answering Point (PSAP) for wireless calls and many wireless 911 callers have difficulty describing their exact location to emergency assistance providers.

⁷ The Commission began this rulemaking by issuing a Notice of Proposed Rulemaking on October 19, 1994. Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, RM-8143, Notice of Proposed Rulemaking, 9 FCC Rcd 6170 (1994) (*E911 Notice*).

⁸ On October 27, 1995, Alliance filed a Petition for Rulemaking requesting that 911 access be provided to any cellular phone, regardless of whether it is listed as a cellular carrier's subscriber, and that mobile handsets be equipped to select and use the channel with the strongest cellular signal whenever a 911 call is placed. Eight comments and one reply comment were filed. See *E911 First Report and Order*, 11 FCC Rcd at 18687 (para. 20).

⁹ On February 23, 1996, the Commission sought comment regarding the Consensus Agreement, and 17 comments and 14 reply comments were filed. *Id.* at 18688 (para. 22).

¹⁰ CTIA announced that the number of wireless telephone subscribers would reach 50 million for the first time during the week of July 27 - August 2, 1997. "July 27 - August 2: U.S. will reach 50 million wireless phone subscribers," CTIA News Release, July 21, 1997. This represents a 19 percent penetration rate; total United States population is 260 million. See also Electronic Buyers News, June 23, 1997, at 1; Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Second Report, FCC 97-75, 12 FCC Rcd 11267 (1997).

¹¹ See "Wireless Phones Used for over 59,000 Emergency Calls Every Day," CTIA News Release, May 20, 1997.

9. In the *E911 First Report and Order*, therefore, the Commission established the following requirements for wireless carriers, including cellular, broadband Personal Communications Service (PCS), and certain SMRs:

Basic 911 Capabilities

- Within 12 months after the effective date of E911 rules (*i.e.*, by October 1, 1997), carriers must process and transmit to an appropriate PSAP all 911 calls from wireless handsets which transmit a code identification, without user validation.¹²
- By this date, carriers must also process and transmit calls that do not transmit a code identification to any appropriate PSAP which has formally instructed the carrier that it desires to receive such calls from the carrier.
- By this date, carriers must also be capable of transmitting 911 calls made by persons with disabilities, *e.g.*, through use of TTY equipment.

Enhanced 911 Capabilities

Phase I:

- Within 12 months of the effective date of the rules (*i.e.*, by October 1, 1997), carriers must have initiated actions necessary to relay a caller's Automatic Number Identification (ANI) and the location of the cell site receiving a 911 call. These capabilities are designed to allow the PSAP to call back the phone placing the 911 call if disconnected, and help identify the location of the caller.
- Within 18 months (*i.e.*, by April 1, 1998) the carriers must have completed these actions.

Phase II:

- Not later than five years after the effective date of the rules (*i.e.*, by October 1, 2001), carriers are required to have the capability to identify the latitude and longitude of the mobile units making 911 calls within a radius of no more than 125 meters, using Root Mean Square calculations (which roughly equate to success rates of approximately 67 percent).

¹² The definition of the terms "code identification" and "user validation" are discussed in Section III.A., *infra*.

Phase I and Phase II E911 Conditions:

- The E911 requirements apply only if:
 - (1) the carrier receives a request for such services from a PSAP capable of receiving and using the service, and
 - (2) a mechanism for the recovery of costs relating to the provision of such services is in place.

B. Ex Parte Filings, Stay Order, and Additional Comments

10. After the close of the formal pleading cycle for reconsideration petitions, several parties filed *ex parte* presentations in this proceeding.¹³ In light of technical issues raised by a number of parties in their *ex parte* presentations, a Public Notice was issued by the Wireless Telecommunications Bureau on July 16, 1997, seeking additional comment regarding certain technical issues pertaining to the 911 availability requirements established in the *E911 First Report and Order*.¹⁴ On July 28, 1997, twelve additional comments were filed in response to the July 16 Public Notice.¹⁵ The Wireless E911 Coalition (Coalition) also filed *ex parte* presentations and a formal petition, requesting an extension of at least 18 months (in the case of digital systems) of the deadline for achieving compliance with TTY compatibility requirements.¹⁶ On September 16, 1997, the National Association of the Deaf (NAD) and Consumers Action Network (CAN) jointly filed their opposition to the Coalition's request for extension.¹⁷

11. On September 25, 1997, CTIA, PCIA, APCO, NENA, and NASNA jointly filed an *ex parte* letter, proposing their consensus recommendations to the Commission.¹⁸ In the

¹³ See, e.g., Wireless E911 Coalition *Ex Parte* Filings (Apr. 22, 1997; June 2, 1997; June 18, 1997). The Wireless E911 Coalition consists of the following parties: Bell Atlantic NYNEX Mobile, BellSouth, Ericsson, Motorola, Nortel, Nokia, Omnipoint, Pacific Bell Mobile Services, PrimeCo, PCIA, and Siemens.

¹⁴ July 16 Public Notice.

¹⁵ The list of comments filed in response to the July 16 Public Notice is included in Appendix A.

¹⁶ See, e.g., Wireless E911 Coalition *Ex Parte* Filing (June 4, 1997); Wireless E911 Coalition and PCIA, Request for Extension of Time To Implement E911/TTY Compatibility Requirement for Wireless Operators (filed Aug. 27, 1997).

¹⁷ NAD and CAN Opposition to Request for Extension of Eighteen Months To Implement E911/TTY Compatibility Requirement for Wireless Operators (filed Sept. 16, 1997) (NAD and CAN Opposition).

¹⁸ Joint Letter.

Joint Letter, the parties request the Commission (1) to revise Section 20.18(b) of its Rules to require carriers to "process all successfully validated 911 wireless calls and to process all 911 wireless calls where requested by the 911 authority"; (2) to amend Section 20.18(b) to reflect that the exercise of PSAP choice regarding receipt of all 911 calls or only successfully validated 911 calls "may not be possible until the Phase II location technology is in place"; (3) to extend the TTY implementation deadline in Section 20.18(c) of the Commission's Rules with respect to digital systems for 18 months until April 1, 1999; and (4) to defer any Commission decisions regarding "carrier liability, certain call-back capabilities, strongest signal technology, the use of temporary call-back numbers, and the status of uninitialized phones" until the relevant parties develop consensus positions.¹⁹ Congresswoman Eshoo and Alliance filed *ex parte* letters opposing the proposals.²⁰

12. Because the Commission had not completed its review of pending petitions for reconsideration, and in light of a number of *ex parte* filings recently made in this proceeding, on September 30, 1997, an Order was issued by the Wireless Telecommunications Bureau, pursuant to its delegated authority, to stay the October 1, 1997 implementation date for subsections (a), (b), and (c) of Section 20.18 of the Commission's Rules through November 30, 1997.²¹ Subsequently, on October 3, 1997, a Public Notice was issued by the Bureau seeking further comment concerning issues raised in the Joint Letter.²² Twelve comments and five reply comments were filed in response to the October 3 Public Notice.²³ On November 20, 1997, CTIA, PCIA, NAD, CAN, Telecommunications for the Deaf, Inc. (TDI), and Gallaudet University filed a consensus *ex parte* letter, proposing a 15-month extension of the TTY compatibility requirement deadline until January 1, 1999.²⁴ In the TTY Consensus

¹⁹ *Id.* at 2-4.

²⁰ See Letter from Congresswoman A. Eshoo, U. S. House of Representatives, to Chairman R. Hundt, FCC, Sept. 29, 1997 (Eshoo Letter); Alliance *Ex Parte* Filing (Sept. 30, 1997).

²¹ See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, DA 97-2119 (released Sept. 30, 1997) (*Stay Order*). A subsequent Order was issued by the Wireless Telecommunications Bureau, pursuant to its delegated authority, to clarify the rights and obligations of wireless carriers until the revised rules adopted by the Commission take effect. See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, DA 97-2530 (released Dec. 1, 1997).

²² October 3 Public Notice.

²³ The list of comments and reply comments filed in response to the October 3 Public Notice is included in Appendix A.

²⁴ See Consensus of the CTIA, PCIA, NAD, TDI, Gallaudet University and CAN (filed Nov. 20, 1997) (TTY Consensus Agreement).

Agreement, PCIA agrees to amend its initial request for an 18-month extension of time, and NAD and CAN also agree to withdraw their opposition to PCIA's extension request.²⁵

III. DISCUSSION

A. 911 Availability Without Customer Validation

1. Background, Petitions and Further Pleadings

13. In the *E911 Notice*, the Commission proposed requiring wireless carriers to transmit all 911 calls from *service initialized* handsets without a requirement for user validation.²⁶ "Service initialization" means that a user is purchasing service from a wireless carrier. In the *E911 First Report and Order*, the Commission decided this approach would unreasonably prevent a significant number of wireless customers from accessing 911 service and would result in customer confusion.²⁷

14. To address this situation, the Commission required transmission of 911 calls from all handsets which transmit "code identifications," so long as the handset is compatible with the carrier's air interface protocol. "Code identification" was defined in Section 20.3 of the Rules to mean a handset that transmits the 34-bit Mobile Identification Number (MIN) typically used by cellular or PCS licensees, or the functional equivalent of a MIN in the case of SMR services.²⁸ The Commission recognized that this approach could result in the delivery to PSAPs of 911 calls made by non-subscribers, but concluded the public interest would be best served by assuring that *all* code-identified 911 calls are transmitted without the delay and blocking that may result from the validation processes used to determine whether a handset is in service with a wireless carrier.²⁹

15. In addition, the Commission required that carriers transmit all 911 calls, even those without code identification, if requested to do so by a PSAP Administrator. We recognized a strong case in favor of transmitting all 911 calls, but also acknowledged disadvantages to transmitting 911 calls without a code identification. These include the fact that ANI and call back features may not be available or usable, and hoax and false alarm calls might be facilitated. We concluded, however, that each public safety organization is in the

²⁵ TTY Consensus Agreement at 1.

²⁶ *E911 Notice*, 9 FCC Rcd at 6177 (para. 41).

²⁷ *E911 First Report and Order*, 11 FCC Rcd at 18692 (para. 30).

²⁸ Section 20.03 of the Commission's Rules, 47 C.F.R. § 20.03.

²⁹ *E911 Notice*, 11 FCC Rcd at 18694 (para. 36).

best position to determine for itself whether to accept calls without code identification. Further, we concluded that this requirement would not impose an unfair regulatory burden on wireless providers relative to wireline carriers. The Commission noted that major wireless carriers already process 911 calls without validation, and reasoned that users of public pay phones, the closest wireline analogy to a wireless handset, are able to place 911 calls without charge in many states as a result of state and local government requirements.³⁰

16. In pleadings filed during the formal reconsideration pleading cycle, thirteen of the sixteen petitioners, primarily wireless carriers, urge the Commission to reconsider its rules governing the transmission of 911 calls to PSAPs.³¹ In their petitions, some carriers support the original proposal to require transmission only of calls from service initialized phones.³² CTIA, for example, proposes that carriers be permitted to validate and block calls from non-service initialized handsets when this can be done without a call processing delay.³³ In support, the carriers claim that in some cases the code identification would not be unique to the phone, for example when (1) a manufacturer programs its handsets with "dummy" MINs and the customer uses the handset directly "out of the box" after purchase *without* initiating service, or a customer terminates service and the number is reassigned; (2) the phone number is "cloned";³⁴ or (3) the handset is marketed and designed only for 911 use.³⁵ In these cases, parties assert, a code identification based on the MIN might not accurately identify the handset making the 911 call, and the PSAP might thus not be able to identify the handset and call back if disconnected, or might reach a different handset with the same MIN.³⁶

17. Some petitioners also reason that the rule would permit fraudulent and prank 911 calls that may endanger public safety personnel and promote errors and mistakes in rendering

³⁰ *Id.* at 18695-96 (paras. 37-39).

³¹ See generally, e.g., Ameritech Petition; AT&T Petition; BANM Petition; BellSouth Petition; CTIA Petition; Nextel Petition; Nokia Petition; Omnipoint Petition; PCIA Petition; PrimeCo Petition; SBMS Petition; TIA Petition; XYPOINT Petition.

³² See, e.g., Ameritech Petition at 10; AT&T Petition at 4-6; BANM Petition at 3-4; CTIA Petition at 4; XYPOINT Petition at 5-6.

³³ CTIA Petition at 4.

³⁴ A cloned telephone is one that has been reprogrammed to transmit the identification (for a cellular phone, this is the electronic serial number (ESN) and the telephone number (MIN)) belonging to another (legitimate) telephone. A cloned telephone can then be used to make calls that will be billed to the subscriber of the legitimate telephone.

³⁵ See Ameritech Petition at 7-8; AT&T Petition at 5; CTIA Petition at 5-6; TIA Petition at 10-11.

³⁶ See, e.g., TIA Petition at 3-5.

emergency services.³⁷ Others argue that consumers could obtain phones for use in emergencies without subscribing to service or supporting the facilities used for emergency service, which, the carriers argue, would drive up the price of service for subscribers and reduce revenues.³⁸ Carriers also raise a further technical concern regarding the Commission requirement that PSAPs be permitted to choose whether they want to receive 911 calls that have no code identification.³⁹ Some carriers argue that, in many cases, a switch routes calls to more than one PSAP, and that differentiating between PSAPs that want non-code identified calls and those that do not could require complicated modifications in the switch software.⁴⁰

18. Nextel, an SMR provider, also supports requiring only that service-initialized calls be transmitted. It claims that (1) its digital SMR equipment can only be purchased in connection with SMR service, so the only unauthorized phones would be those stolen or otherwise illegally obtained; (2) handling all code-identified calls, not just service initialized calls, would require major upgrades to the switch and all mobile units; (3) the requirement would competitively disadvantage carriers using iDEN technology developed by Motorola; and (4) fraudulent 911 calls could not be traced.⁴¹ In its June 4, 1997 *ex parte* letter, Nextel also requests that the Commission delay the Section 20.18(b) implementation deadline for 911 availability for one year, citing the complexity of customer education, marketing, and billing.⁴² In comments filed on July 28, 1997, Nextel expands this to a request for a two-year delay.⁴³

19. On the other hand, public safety organizations and an alliance of consumer groups have opposed these petitions in pleadings filed in the formal reconsideration pleading cycle, supporting the Commission's current rules regarding the 911 calls that should be transmitted by carriers.⁴⁴ The Joint Comments of NENA, APCO, and NASNA indicate that some PSAPs prefer to receive all calls — even if the lack of code identification means that call back is not possible — while others believe non-code-identified calls should not be

³⁷ See, e.g., Ameritech Petition at 8; CTIA Petition at 7; PCIA Petition at 5.

³⁸ See, e.g., Ameritech Petition at 9-10.

³⁹ See, e.g., AT&T Petition 6; SBMS Petition at 4-6.

⁴⁰ SBMS Petition at 4-6.

⁴¹ Nextel Petition at 4-6.

⁴² Nextel *Ex Parte* Filing at 5-7 (June 4, 1997).

⁴³ Nextel Additional Comments at 3-7.

⁴⁴ See generally Alliance Opposition; I-95 Coalition Opposition; Joint Commenters Opposition.

forwarded.⁴⁵ The latter view is based largely on the concern that hoax calls, made by persons intent upon disrupting 911 service, will increase as it becomes evident to potential perpetrators that PSAPs and wireless carriers are unable to trace calls placed from non-service initialized phones.⁴⁶ Alliance argues that the Commission should simply require all carriers to transmit all 911 calls to the PSAP without blocking, contending that prompt, unconditional connection of all 911 emergency calls is required by the public interest.⁴⁷ Alliance contends that many cellular carriers block emergency calls from non-subscribers and roamers whose carriers do not have roaming agreements.⁴⁸

20. In later *ex parte* presentations, the Wireless 911 Coalition presented further information to the Commission regarding the technical aspects of processing 911 calls.⁴⁹ According to the Coalition, wireless switch technology does not offer the choice of forwarding only code identified calls to PSAPs. The only available options are to (1) forward all calls, or (2) forward only service initialized calls that have been successfully validated.⁵⁰ On July 16, 1997, the Wireless Telecommunications Bureau requested further information on this issue and requested comments on the information submitted by the Coalition, as well as by Alliance and GTE.⁵¹ Additional comments in response to the July 16 Public Notice generally agree with the Coalition that the Commission's 911 rules based on "code identification" are not technically feasible at this time.⁵² Some commenters argue that the Commission should revise its rules that require covered carriers to transmit non-code identified 911 calls based on PSAP choice or delay implementation of the rules.⁵³ Public

⁴⁵ Joint Commenters Opposition at 2-3.

⁴⁶ *Id.*

⁴⁷ Alliance Opposition at 6.

⁴⁸ *Id.* at 2-7.

⁴⁹ See Wireless E911 Coalition *Ex Parte* Filings (Apr. 22, 1997; June 4, 1997; June 18, 1997).

⁵⁰ Wireless E911 Coalition *Ex Parte* Filing (June 4, 1997).

⁵¹ See July 16 Public Notice.

⁵² See, e.g., AirTouch Additional Comments at 2-3; AT&T Additional Comments at 1; BANM Additional Comments at 2; CTIA Additional Comments at 7-8; SBMS Additional Comments at 3-5; 360° Communications Additional Comments at 1.

⁵³ See, e.g., AirTouch Additional Comments at 5; AT&T Additional Comments at 3; BANM Additional Comments at 1-2; CTIA Additional Comments at 1; Nextel Additional Comments at 3-7; RCA Additional Comments at 4.

safety organizations and other commenters, however, urge the Commission not to defer implementation of the E911 rules or modify its policy goals.⁵⁴

21. The Joint Letter, submitted on September 25, 1997, also proposes that the Commission eliminate the definition of "code identification" and change its rules to distinguish between "all wireless 911 calls" and "successfully validated wireless 911 calls."⁵⁵ The parties filing the Joint Letter propose that licensees be required to process only successfully validated 911 calls except in cases in which PSAPs have requested the receipt of all 911 calls.⁵⁶ In addition, the Joint Letter requests that Section 20.18(b) be amended further to reflect that the choice of a PSAP authority to receive all wireless 911 calls or only successfully validated 911 wireless calls may not be possible until Phase II location technology is in place.⁵⁷ The Joint Letter, however, further requests that the Commission's rules not preclude carriers who choose not to perform validation from passing all wireless 911 calls.⁵⁸

22. In response to the Joint Letter, Congresswoman Eshoo reiterates her position that "it is in the public's best interest that all wireless 911 calls should be passed through to the public safety authority."⁵⁹ Alliance also filed an *ex parte* presentation, urging the Commission to deny the proposals made in the Joint Letter.⁶⁰ Alliance argues that the Joint Letter's proposed redefinition of terms is "a transparent effort by certain wireless carriers to restore the practice of blocking emergency calls."⁶¹ In addition, because Alliance believes that the Joint Letter suggests that the public safety community is now willing to accept all 911 calls from carriers who choose to send them, Alliance contends that there is no reason why all carriers should not be required to send all 911 calls.⁶² Alliance thus urges that requiring

⁵⁴ See, e.g., APCO Additional Comments at 1-2; NENA Additional Comments at 3; XYPOINT Additional Comments at 1-3; MULOCK Additional Comments at 1-2.

⁵⁵ Joint Letter at 3.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ Eshoo Letter (Sept. 29, 1997).

⁶⁰ Alliance *Ex Parte* Filing (Sept. 30, 1997).

⁶¹ *Id.* at 1-2.

⁶² *Id.* at 2.

carriers to process all 911 calls is the obvious and best solution to end the efforts by the wireless industry to reinstate blocking of emergency calls.⁶³

23. Commenters responding to the October 3 Public Notice generally support the proposals made in the Joint Letter. For example, most parties agree with the Joint Letter's proposal to eliminate the distinction based on "code identification" and to differentiate between "successfully validated wireless 911 calls" and "all wireless 911 calls."⁶⁴ Commenters also generally support the Joint Letter's proposal to defer the PSAP-by-PSAP choice to receive "all wireless 911 calls" or "only successfully validated 911 calls" until Phase II location technology is in place.⁶⁵

24. In response to the concern voiced by Congresswoman Eshoo and Alliance that the Joint Letter's proposals are intended to block certain wireless 911 calls, CTIA and PCIA, in their further comments, state that this is not the intent of the proposed amendment.⁶⁶ CTIA, for example, clarifies that carriers and public safety organizations are not suggesting that only validated 911 calls be completed, to the exclusion of calls from non-initialized phones or calls from subscribers without valid roaming agreements. Rather, according to CTIA, "the proposal attempts to capture more accurately the type of calls that the 911 authorities may choose from — *i.e.*, all wireless 911 calls and successfully validated 911 calls."⁶⁷ Sprint PCS also argues that the Joint Letter does not advocate that only successfully validated calls be processed or that carriers should not route all calls.⁶⁸ Rather, CTIA and other commenters claim that wireless carriers are prepared to deliver all wireless 911 calls to a requesting PSAP as long as the Commission recognizes that only calls that have been successfully validated will be transmitted with enhanced features (*i.e.*, call back and location).⁶⁹ Noting that the Joint Letter acknowledges that the architecture of certain systems will continue to route all

⁶³ *Id.* at 2-3.

⁶⁴ *See, e.g.*, AirTouch Further Comments at 2-3; AT&T Further Comments at 1-2; BellSouth Further Comments at 2; GTE Further Comments at 2; PrimeCo Further Comments at 2.

⁶⁵ *See, e.g.*, AirTouch Further Comments at 1-2; AT&T Further Comments at 2; BellSouth Further Comments at 2; GTE Further Comments at 2.

⁶⁶ CTIA Further Comments at 2-3; PCIA Further Comments at 3.

⁶⁷ CTIA Further Comments at 2-3.

⁶⁸ Sprint PCS Further Comments at 2.

⁶⁹ *See, e.g.*, CTIA Further Comments at 3; Sprint PCS Further Comments at 2; AT&T Further Reply Comments at 1.

calls, Sprint PCS states that its system is currently structured to pass all calls and provide call back numbers for most of these calls.⁷⁰

2. Discussion

25. Our decision in the *E911 First Report and Order* directing wireless carriers to forward all 911 calls without any user validation from handsets which transmit a code identification was intended to achieve important public safety goals. User validation procedures can be long and cumbersome, sometimes requiring the caller to supply credit card information. The resulting delay in completing a call can be lengthy and errors can occur. Applying these procedures in emergencies could thus cause a dangerous deferral or interruption of the 911 assistance process and, effectively, the denial of assistance in some cases. This could happen, for example, to subscribers of carriers with whom a servicing carrier does not have a roaming agreement. We also pointed out that the requirement could effectively place 911 calls beyond the reach of children and others in emergencies who lacked access to the information needed for validation.⁷¹ We concluded that the safety of lives and property in emergency situations should not hinge on whether a person could, for example, supply a valid credit card number.⁷²

26. To avoid these delays and impediments, we decided to require wireless service providers to transmit 911 calls from all handsets that transmit code identifications, such as the MIN code programmed into cellular and PCS handsets.⁷³ Forwarding calls with a code identification in the signal without validation would, we believed, serve several purposes. First, it would route calls to PSAPs with the minimum amount of delay, in order to permit the most rapid emergency response.⁷⁴ Second, it would ensure that virtually all subscribing customers — including roamers — will be able to place and complete 911 calls expeditiously in emergencies.⁷⁵ Finally, the presence of a code identification as a triggering factor might provide PSAPs with some basic information about the calling party, enabling PSAPs, in some cases, to call back the person seeking emergency assistance if the call is disconnected.⁷⁶ We

⁷⁰ Sprint PCS Further Comments at 2.

⁷¹ *E911 First Report and Order*, 11 FCC Rcd at 18693 (para. 32).

⁷² *Id.* at 18694 (para. 34).

⁷³ *Id.* at 18692 (para. 29).

⁷⁴ *Id.* at 18694 (para. 34).

⁷⁵ *Id.* (para. 35).

⁷⁶ *Id.*

specifically rejected proposals to subject 911 calls to validation in order to screen out calls from non-subscribers, concluding that the potential for delay would seriously compromise the public safety objectives of this proceeding.⁷⁷

27. At the same time, although we found a strong case for forwarding all calls, including those without code identifications, we were concerned that ANI and call back features might not be as usable, and hoax and false alarm calls might be facilitated.⁷⁸ Because public safety organizations are in the best position to determine whether acceptance of calls without code identification helps or hinders their efforts, we concluded that the choice of whether all 911 calls would be transmitted to the PSAP should reside with the public safety administrators.⁷⁹ The mechanism we adopted to accomplish this was to require covered carriers to transmit all 911 calls, including non-code identification calls, if requested by a PSAP.

28. Based upon our review of the record, it now appears that this approach is, at least for the present, unworkable. The *E911 First Report and Order* observed that wireless switches currently are technically unable to differentiate between subscribers and non-subscribers without validation procedures.⁸⁰ The record on reconsideration, in particular the information submitted in *ex parte* presentations in June and July 1997, the comments in response to our July 16, 1997 Public Notice, and the Joint Letter,⁸¹ demonstrates, however, that those switches also cannot presently differentiate between code identified and non-code identified handsets without applying those same validation procedures.⁸²

29. According to information supplied by wireless industry representatives, wireless switches can either (1) transmit all calls without validation; or (2) transmit only calls from handsets that have been validated to prove the callers are current customers in good standing,

⁷⁷ *Id.* (para. 36).

⁷⁸ *Id.* at 18695-96 (paras. 37-38).

⁷⁹ *Id.* at 18696 (para. 38).

⁸⁰ *See id.* at 18694 (para. 36).

⁸¹ *See* Joint Letter at 2.

⁸² *See* Wireless E911 Coalition *Ex Parte* Filings (June 4, 1997; June 18, 1997; July 10, 1997); Alliance *Ex Parte* Filing (July 11, 1997); GTE *Ex Parte* Filing (July 7, 1997); *see also* AT&T Additional Comments at 1; BANM Additional Comments at 1-2; CTIA Additional Comments at 5; RCA Additional Comments at 2-3; SBMS Additional Comments at 6.

or (in roaming situations) are subject to roaming agreements with a serving carrier.⁸³ Forwarding *only* code identification calls *without* validation is apparently not technically possible at present. Efforts to develop and deploy a screening mechanism for code identified calls that would not cause delay or blockage of 911 calls, as the validation process does, would apparently be expensive and time consuming, according to this information.

30. The costs, delays, and administrative burdens of requiring wireless carriers to implement the "PSAP choice" approach taken in the *E911 First Report and Order* might also be substantial. A single wireless switch may serve areas with numerous PSAPs in different state and local jurisdictions with different procedures and approaches. While it may be possible to segment the switch to reflect PSAP choices, this appears to require complicated and expensive modifications to the software that could not be implemented for some time.⁸⁴ Alternatively, a rule that required all PSAPs in an area to reach a consensus could be problematic to administer, especially in light of the varying switch coverage areas of the several competing wireless carriers. In sum, the problems presented by requiring wireless carriers to implement code identification screening based upon PSAP choices at present appear substantial.

31. At the same time, we recognize that there are certain limitations on the benefits of code identification screening to PSAPs. The fact that a handset is code-identified does not mean its user may be reliably called back in the event of disconnection. For some technologies, the MIN code is not a dialable number and the handset can be reached only if it is in service. Even if the code is a dialable number, that number might not permit call back or deter prank calls or false alarms. Lost, stolen, and cloned phones may transmit valid codes. Codes from handsets whose owners no longer maintain service may be reissued, so that the transmitted code may be ambiguous, duplicating the in-service code of another handset.⁸⁵ For these categories of code identified handsets, PSAPs may be unable to call back

⁸³ See Wireless E911 Coalition *Ex Parte* Filings (June 4, 1997; July 10, 1997); GTE *Ex Parte* Filing (July 7, 1997); see also AT&T Additional Comments at 1; BANM Additional Comments at 1-2; CTIA Additional Comments at 5; RCA Additional Comments at 2-3; SBMS Additional Comments at 6. See also Joint Letter at 2 ("Whether a . . . 'code identification' is transmitted [by a carrier] will be meaningless in determining what type of information can be passed to a PSAP.").

⁸⁴ See, e.g., SBMS Petition at 4-6; Wireless E911 Coalition *Ex Parte* Filing at 11 (July 10, 1997); GTE *Ex Parte* Filing (July 7, 1997). See also Joint Letter at 3 ("The Commission . . . must recognize that particular Public Safety authorities may not be able to choose on an individual basis the types of calls they will receive (i.e., all calls or only successfully validated calls) until Phase II location technology is in place. . . . Furthermore, the parties agree that even when Phase II location technology is in place, calls may be identified with an inappropriate PSAP.").

⁸⁵ While MIN is only part of the information used to determine the uniqueness of a mobile unit (e.g., Electronic Serial Numbers and Mobile Station Identifiers are also used in the validation process), it is the only information supplied to a PSAP and used in the establishment of the dialable number of the unit for call back

reliably if disconnected, or to prevent or trace prank or false alarm calls. Moreover, the goal of deterring prank and false alarm calls and apprehending the callers is likely to be better served by the scheduled deployment of more accurate caller location information pursuant to the Phase II requirements established in the *E911 First Report and Order*. This technology will provide information on the location of handsets being used to make prank or false alarm calls.

32. In addition, from a caller's perspective, the distinction between code identified and non-code identified handsets would be difficult to explain and understand, as would the fact that this distinction would be crucial to completing 911 calls in some locations, but meaningless in others, depending on PSAP choice. In some cases, call completion could also depend on the vagaries of radio transmission and network management, because wireless calls are not necessarily received by the nearest cell site. A call from a non-code identified handset might be routed to a PSAP that would accept it one day, and to another that would decline to receive it the next. The end result could be unnecessary consumer confusion about wireless 911 service and added risks that help will not arrive promptly, if at all, in response to an emergency call.

33. Based upon this record, it appears that the technically feasible and most practical options are to forward either *all* 911 calls, or *only* those that have been validated. This is in fact the position of many in the wireless industry.⁸⁶ Given this choice, we find that the public interest would clearly be better served by requiring covered carriers to forward all 911 calls. As we noted in the *E911 First Report and Order*, one of the Commission's statutory mandates under the Communications Act is "promoting safety of life and property through the use of wire and radio communication."⁸⁷

34. We have already discussed many of the reasons why the validation process would unnecessarily delay or defeat the dispatch of help in emergencies, here and in the *E911 First Report and Order*. Roamers whose home carrier happened not to have a service agreement with a carrier in whose service area the call is placed would be most obviously affected. Applying the validation process to this important class of customers would, at a minimum, delay delivery of emergency 911 calls and, in some cases, block them. In addition, we are not persuaded by arguments that only current validated customers, including roamers with a roaming agreement, should be allowed to complete wireless 911 calls. We continue to believe that the public safety will be promoted more effectively if all potential 911 calls are

purposes.

⁸⁶ See Joint Letter at 3; Wireless E911 Coalition *Ex Parte Filing* (June 4, 1997); see also SBMS Additional Comments at 10; 360° Communications Additional Comments at 1.

⁸⁷ See 11 FCC Rcd at 18681 (para. 8); Section 1 of the Communications Act, 47 U.S.C. § 151.

passed through to the PSAP regardless of whether they are made by subscribers. Many wireless 911 calls are from "Good Samaritans" reporting traffic accidents and similar emergencies. Making it easier for individuals to report such emergencies thus primarily benefits the public and serves the public interest, not simply the interests of the caller.⁸⁸

35. The fact that many wireless carriers currently transmit all 911 calls without validation⁸⁹ undercuts arguments that customers would no longer purchase service because they could reach 911 operators without subscribing to any wireless service. Certainly customers value many capabilities of wireless telephony besides the ability to dial 911 in an emergency. The suggestion that consumers who might use non-service initialized phones may drive up the price of service for customers is also doubtful. Emergency calls are a small fraction of total traffic. In addition, the costs of wireless E911 may be recovered in various ways, subject to state and local programs. We also remain unconvinced that a requirement that emergency calls be transmitted imposes an unfair regulatory burden on wireless carriers as compared to wireline carriers.⁹⁰ Overall, we conclude that the clear, concrete benefits of continuing to make it easy and quick to call for help in an emergency outweigh what appear to be largely speculative disadvantages and concerns. We also believe that the current praiseworthy practice of many wireless carriers, who already forward all 911 calls, should be endorsed and not eroded.

36. The Joint Letter proposes rule changes to recognize that particular public safety authorities may not be able to choose on an individual basis the types of calls they receive, for example where a carrier's switch serves multiple PSAPs, until Phase II location technology is in place.⁹¹ It is unclear what costs would be incurred in implementing PSAP choice even under Phase II or how effective it would be. The parties to the Joint Letter agree that, even under Phase II, calls may be identified with an inappropriate PSAP.⁹² Under these circumstances, we believe it is at best premature to impose the obligation of implementing PSAP choice on the carriers. While there may be some benefit to requiring that wireless carriers screen and block calls on behalf of the PSAPs, in order to deter and prevent hoax 911 calls, the extent of the benefits and the costs that would be incurred are uncertain. Rather

⁸⁸ As we have noted, this approach promotes the goals of the Communications Act. See 47 U.S.C. § 151.

⁸⁹ See, e.g., Wireless E911 Coalition *Ex Parte* Filing at 2 (July 10, 1997).

⁹⁰ For example, the State of California requires that all wireline residential telephone lines should be connected with access to 911 emergency service regardless of whether an account has been established. CAL. PUB. UTIL. CODE § 2883.

⁹¹ Joint Letter at 3.

⁹² *Id.*

than imposing this requirement on the wireless carriers on the current record, we find it preferable to simply require carriers to transmit all 911 calls to the appropriate PSAPs.

37. We also are not convinced that requiring wireless carriers to forward all 911 calls precludes PSAP efforts to implement call back and guard against fraudulent 911 calls. Our rules apply to wireless carriers, not PSAPs, which can administer their own operations and decide how to manage incoming calls. PSAPs should, for example, receive call information that will allow them to screen out or identify many types of fraudulent calls or those where call back is not possible. Also, there is a dispute in the record concerning whether call back can be achieved for handsets that are not service initialized through the use of the "Follow-Me-Roaming"⁹³ process, which, if proven to be the case, might mitigate some concerns within the public safety community.⁹⁴

38. The option suggested by CTIA of allowing validation where it can be done without a call processing delay does not appear to be feasible for existing equipment, as the Commission pointed out in the *E911 First Report and Order* and parties such as SBMS and the Wireless Coalition affirm in their comments and other submissions. Even if it were feasible, the public safety would be better served by ensuring that all 911 calls are passed through promptly to the PSAP regardless of whether the caller is a subscriber. Moreover, CTIA itself no longer appears to support this approach. In the Joint Letter that it signed and in its further comments, CTIA supports transmitting all calls to the PSAP, if the PSAP so chooses.⁹⁵ While we would not lightly dismiss proposals that present an effective way to screen 911 calls and better meet the wishes of PSAPs, we would also want to be assured that the end result would improve public safety for all users, not just subscribers.

39. A requirement that covered carriers transmit all 911 calls also should be feasible for covered SMR services provided by carriers such as Nextel. The transmission of all calls should not require the major switch upgrades Nextel claims would be needed to implement code identification screening or PSAP choice. It should also not disadvantage any particular technology. As we discuss below,⁹⁶ this does not mean that 911 calls from handsets that have

⁹³ According to Alliance, the "Follow-Me-Roaming" process uses a pseudo-ANI to uniquely identify a non-local handset's code identification with a temporary, dialable "local" telephone number. Calls directed to the handset are routed using this number. See Alliance Comments on Further NPRM, Attachment E at 2.

⁹⁴ See Alliance Opposition at 8-9; Alliance *Ex Parte* Filing at 2 (July 11, 1997); *contra* AirTouch Additional Comments at 7; AT&T Additional Comments at 2; BANM Additional Comments at 5-6; CTIA Additional Comments at 6-7; NENA Additional Comments at 4-5; SBMS Additional Comments at 3; 360° Communications Additional Comments at 2.

⁹⁵ See Joint Letter at 3; *see also* CTIA Further Comments at 2-3.

⁹⁶ See discussion at paras. 70-83, *infra*.

never been placed in service will be transmitted, but customers who purchase an SMR handset and service, but later discontinue service, will be able to dial 911 and reach a PSAP in an emergency.

40. We deny Nextel's request to delay further the implementation deadline for Section 20.18(b) requirements to transmit 911 calls to PSAPs. Many carriers already transmit all 911 calls to PSAPs.⁹⁷ Moreover, in response to questions from Commission staff, wireless carriers generally agreed that no delay is necessary for the 911 availability requirements.⁹⁸ We thus find no need or justification for a further delay in the basic 911 implementation deadline. In the case of some SMR technologies, we note that the carrier does not recognize the handset until it has been programmed with a code at the time service is started. For these technologies, we clarify that we consider handsets that have not been placed in service to be incompatible with the carrier's air interface protocol — such handsets thus are not subject to 911 requirements until they are programmed with a code. Otherwise the same obligations would apply. Thus, if the carrier has the ability to recognize a 911 call, the carrier is obligated to forward the call to the designated PSAP. For example, in the case of these SMR technologies, if a handset is placed in service and programmed with a code, the carrier would be obligated to transfer 911 calls from the handset even if it is no longer subscribed for service.

41. We also clarify, in response to a request by TIA, that we do not bar validation procedures that provide information to the PSAP, such as database lookups to associate a telephone directory number with a particular handset code identification, provided these procedures do not prevent or delay call completion.⁹⁹ In addition, because the definitions of "code identification" and "mobile identification number" are no longer relevant, we are deleting them from our rules. This action moots concerns raised by TIA about these definitions.¹⁰⁰ Further, we clarify that switch functions that do not block or delay any 911 calls are not considered to be validation functions for purposes of 911 and E911 implementation.¹⁰¹

⁹⁷ See *E911 First Report and Order*, 11 FCC Rcd 18695 (para. 37) (GTE routes 911 calls to a PSAP regardless of whether the handset is service initialized); see also *Wireless E911 Coalition Ex Parte Filing* at 2 (July 10, 1997) (noting that many wireless carriers choose to pass all calls to the PSAP).

⁹⁸ See, e.g., *GTE Ex Parte Filing* (July 7, 1997); *Wireless E911 Coalition Ex Parte Filing* (July 10, 1997); *SBMS Additional Comments* at 8.

⁹⁹ See *TIA Petition* at 7-9.

¹⁰⁰ See *id.* at 4-5.

¹⁰¹ See *SBMS Additional Comments* at 2.

B. TTY Access to 911 Services

1. Background, Petitions and Further Pleadings

42. In the *E911 First Report and Order*, the Commission adopted rules requiring that, no later than 12 months after the effective date of the rules (*i.e.*, October 1, 1997), covered carriers ``must be capable of transmitting 911 calls from individuals with speech or hearing disabilities through means other than mobile radio handsets, *e.g.*, through the use of Text Telephone Devices."¹⁰² TTYs or TDDs are keyboard-like devices used by people with speech disabilities or hearing disabilities, or both, to communicate by telephone.¹⁰³ Title II of the Americans with Disabilities Act (ADA) requires non-discriminatory access to state and local government services, such as 911, for people with hearing or speech disabilities.¹⁰⁴ Pursuant to the ADA requirements, telephone emergency services, including 911 services, are required to provide direct access to individuals who use TDDs and computer modems, without relying on outside relay services or third party services.¹⁰⁵

43. Although the Commission mandated that TTY users should also benefit from E911 features, including ALI and ANI capabilities,¹⁰⁶ the Commission stated in the *E911 First Report and Order* that it would be prudent for the wireless industry, equipment manufacturers, PSAPs, and the disability community to determine the extent of issues pertaining to the provision of these E911 features for TTY calls and whether these issues might be resolved by agreements between the interested parties or by standards bodies.¹⁰⁷ The Commission also required that each of the signatories to the Consensus Agreement, the Personal Communications Industry Association (PCIA), and Telecommunications for the Deaf, Inc. (TDI) shall report to us jointly within one year after the effective date of the rules (*i.e.*, by October 1, 1997) regarding the status of the issues related to E911 features for TTY calls.

¹⁰² *E911 First Report and Order*, 11 FCC Rcd at 18701 (para. 50).

¹⁰³ The terms TTY and TDD refer to ``telecommunications devices for the deaf." Pursuant to Section 64.601 of the Commission's Rules, Text Telephone (TT) now supersedes the term ``TDD." TT is defined as ``a machine that employs graphic communication in the transmission of coded signals through a wire or radio communication system." Section 64.601(8) of the Commission's Rules, 47 C.F.R. § 64.601(8).

¹⁰⁴ See 42 U.S.C. §§ 12131-12134.

¹⁰⁵ 28 C.F.R. § 35.162; see also ADA Title II Assistance Manual II-7.3100, DOJ Civil Rights Division, Jan. 1993.

¹⁰⁶ Sections 20.18(d) and 20.18(e) of the Commission's Rules require covered carriers to provide Phase I and Phase II E911 features for 911 calls from TTY devices. 47 C.F.R. §§ 20.18(d), 20.18(e).

¹⁰⁷ *E911 First Report and Order*, 11 FCC Rcd at 18702 (para. 52).

The Commission indicated that it might initiate a further proceeding after additional information is obtained.¹⁰⁸

44. Pursuant to mandates of the Telecommunications Act of 1996,¹⁰⁹ the Commission is currently working on separate rulemaking proceedings to promote broad availability of telecommunications services for people with hearing and speech disabilities. For example, the Commission issued a Notice of Inquiry to implement Section 255 of the Communications Act, as added by the Telecommunications Act of 1996. Section 255 requires manufacturers of telecommunications equipment or providers of telecommunications services to ensure that their equipment or services are accessible and usable by individuals with disabilities, if readily achievable.¹¹⁰ In addition, under Section 225 of the Communications Act, the Commission is required to make Telecommunications Relay Services (TRS) available and, *inter alia*, assure that the use of existing technology does not discourage or impair the development of improved technology.¹¹¹

45. In their petitions for reconsideration, Omnipoint, PCIA, and TIA contend that the Commission should reconsider the TTY access requirements for digital mobile radio systems, because digital systems may not be compatible with TTY devices.¹¹² While all parties uniformly support 911 access from TTY devices and agree that current devices are compatible with analog cellular technology, these petitioners claim that TTY compatibility with digital devices cannot be guaranteed and may not be achievable by the October 1, 1997 deadline established in the *E911 First Report and Order*.¹¹³

¹⁰⁸ *Id.* On September 23, 1997, CTIA filed an *ex parte* letter, indicating that they intended to file the Joint Status Report with the Commission on October 1, 1997. However, on October 1, 1997, CTIA requested an extension of time to file the Joint Status Report. See CTIA *Ex Parte* Filing (Sept. 23, 1997); CTIA *Ex Parte* Filing (Oct. 1, 1997).

¹⁰⁹ Pub. L. 104-104, 110 Stat. 56 (1996).

¹¹⁰ Section 255 of the Communications Act, 47 U.S.C. § 255. See also Implementation of Section 255 of the Telecommunications Act of 1996: Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities, WT Docket No. 96-198, Notice of Inquiry, FCC 96-382, 11 FCC Rcd 19152 (1996) (*Section 255 NOI*).

¹¹¹ 47 U.S.C. § 225. See also 47 C.F.R. §§ 64.601-604 (TRS has been available on a uniform, nationwide basis since July 26, 1993, and is required to be capable of communicating with ASCII and Baudot formats, at any speed generally in use); TRS, the ADA of 1990, and the Telecommunications Act of 1996, CC Docket No. 90-571, Notice of Inquiry, FCC 97-7, 12 FCC Rcd 1152 (1997) (seeking comments on the effectiveness of the current TRS program and new technologies and possible rule changes that could improve TRS).

¹¹² Omnipoint Petition at 8-15; PCIA Petition at 10-11; TIA Petition at 12-15.

¹¹³ See, e.g., Omnipoint Petition at 9.

46. Omnipoint, for example, requests that the Commission modify its rule to reflect that carriers can satisfy their obligations through so-called "short-messaging service," and through analog TTY when reasonably feasible.¹¹⁴ PCIA argues that 911 access for TTYs should not be mandated until industry standards bodies have resolved certain technical issues, contending that two complex technical issues will not be resolved by the implementation date of the TTY access requirement: (1) the ability of digital wireless systems to transmit 300 baud modem tones required by older TTYs; and (2) the promulgation of different standards for digital and analog TTY devices because digital networks, unlike analog networks, distinguish between voice and data transmissions in order to implement such features as error detection and correction.¹¹⁵

47. In addition, TIA argues that modification of digital wireless systems to achieve a usable interface with TTY devices is not "readily achievable" within the meaning of Section 255 and would not encourage the development of improved technology, within the meaning of Section 225. Thus, TIA urges the Commission to provide flexibility in its regulations to implement TTY and digital wireless E911 compatibility through the use of functional equivalents and to defer TTY compatibility requirements until after standards have been developed and a reasonable implementation time frame can be discerned.¹¹⁶ Motorola agrees that the one-year time limit is not workable because standards must be developed and basic technical questions must be addressed.¹¹⁷

48. On the other hand, in their initial reply comments, the public safety community as well as the disability community urge the Commission to maintain the current TTY access requirements, contending that covered carriers have been on notice for more than two years of the possibility that the Commission would prescribe this rule, since the *E911 Notice* was

¹¹⁴ *Id.* at 8-9. Omnipoint suggests that the Commission revise Section 20.18(c) of its rules to read as follows:

As of [one year after the effective date of the rule] licensees subject to this section must be capable of transmitting 911 calls from individuals with speech or hearing disabilities through means other than normal speech over a mobile radio handset. Acceptable methods of demonstrating compliance with this requirement include handset keypad-originated text messages or data services compliant with international standards. To the extent feasible with the technology implemented by the operators, analog TTY service shall also be supported.

¹¹⁵ PCIA Petition at 10-11.

¹¹⁶ TIA Petition at 14-15.

¹¹⁷ Motorola Reply at 6-7.

issued in 1994.¹¹⁸ Joint Commenters and TX-ACSEC contend that Omnipoint's proposed modification of the TTY requirement leaves too much to the discretion of the carriers.¹¹⁹ NAD, representing people with hearing disabilities, urges that the Commission should not modify the TTY compatibility requirement.¹²⁰ CAN, a consumer group representing the disability community, also urges the Commission to encourage the industry to work quickly to resolve any outstanding technical issues, rather than allow the industry more time.¹²¹ Recognizing the importance of the availability of 911 service in an emergency, CAN contends that "E911 service through wireless services for hearing callers will improve safety for hearing callers. Deaf and hard of hearing callers deserve no less."¹²²

49. After the reconsideration petition comment cycle closed, in an *ex parte* filing dated June 4, 1997,¹²³ and in a formal petition dated August 27, 1997,¹²⁴ the Coalition requested an extension of the E911/TTY compatibility deadline of at least 18 months for digital systems. In the filing, they assert that ensuring compatibility for all digital wireless systems will be impossible by October 1, 1997. The ability of wireless operators to meet the E911/TTY compatibility requirement, they contend, is predicated on intensive and cooperative work by wireless device manufacturers, TTY manufacturers, and standards organizations. Further, according to the petitioners, although a number of projects are currently ongoing and a great deal has been accomplished, significant work remains to be done, including more research, coordinated efforts among manufacturers, resolution of standards and technical issues, and time to translate test results into recommendations for product changes and development. In response to the Coalition's request for extension, Nextel filed a motion in support of this request, stating that the wireless industry believes the appropriate system modifications are achievable, but cannot be accomplished by October 1, 1997.¹²⁵

¹¹⁸ See Joint Commenters Opposition at 5; TX-ACSEC Opposition at 10; CAN Comments at 1-3; NAD Reply at 2-4.

¹¹⁹ Joint Commenters Opposition at 5; TX-ACSEC Opposition at 10.

¹²⁰ NAD Reply at 2-4.

¹²¹ CAN Comments at 3.

¹²² *Id.* at 3-4.

¹²³ Wireless E911 Coalition *Ex Parte* Filing (June 4, 1997).

¹²⁴ Wireless E911 Coalition, Request for Extension of Time to Implement E911/TTY Compatibility Requirement for Wireless Operators (filed Aug. 27, 1997).

¹²⁵ Nextel Motion in Support of Request for Extension of Time to Implement E911/TTY Compatibility Requirements for Wireless Operators (filed Sept. 9, 1997).